BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE

IN THE MATTER OF INTEGRATED	)	
RESOURCE PLANNING FOR THE	)	
PROVISION OF STANDARD OFFER	)	
SERVICE BY DELMARVA POWER	)	PSC DOCKET NO. 14-0559
& LIGHT COMPANY UNDER	)	
26 *DEL. C.* §1007(c) & (d)	)	
(FILED DECEMBER 2, 2014)	)	

COMMENTS OF THE DIVISION OF THE PUBLIC ADVOCATE REGARDING DELMARVA POWER & LIGHT COMPANY'S 2014 INTEGRATED RESOURCE PLAN

BACKGROUND

On December 2, 2014, Delmarva Power & Light Company ("Delmarva" or the "Company") filed its 2014 Integrated Resource Plan ("IRP") as required by 26 *Del. C.* §1007(c)(1).

By Order No. 8694 dated December 16, 2014, the Delaware Public Service Commission (the "Commission") opened this docket to consider the Company's IRP. The Commission established February 23, 2015 as the deadline for petitions to intervene; established March 30, 2015 as the deadline for comments on the IRP; and established April 29, 2015 as the deadline for Delmarva to submit reply comments. The Commission further designated Senior Hearing Examiner Mark Lawrence to conduct or supervise such proceedings in this matter as he deemed necessary or appropriate to have a full and complete record concerning the IRP The Commission delegated Senior Hearing Examiner Lawrence authority to grant or deny petitions to intervene and motions for *pro hac vice* admission and to determine the manner and content of any additional public notice he deems necessary or appropriate. The Commission instructed Senior Hearing Examiner Lawrence to submit a report with his proposed findings of fact based on the evidence, any recommended conclusions of law, and, if necessary, recommendations concerning what action(s) the Commission should take in response to the IRP.

The Division of the Public Advocate ("DPA") filed its statutory notice of intervention on December 16, 2014. Calpine Mid-Atlantic LLC ("Calpine") and the Department of Natural Resources and Environmental Control ("DNREC") filed timely petitions to intervene, which were granted. The Mid-Atlantic Renewable Energy Coalition ("MAREC") submitted a petition for leave to intervene out of time, to which no party objected. As of the date of these Comments, MAREC's petition had not been granted.

The DPA retained David Stevenson, President of Alternative Strategies Consulting, to review the IRP. The DPA offers the following comments on Delmarva's IRP.

GENESIS OF INTEGRATED RESOURCE PLANNING

Integrated resource planning began in the late 1980s in response to the oil embargoes of the 1980s and nuclear construction cost overruns occurring in the late 1970s and into the 1980s, which led to several utilities in the New England region declaring bankruptcy. As defined in the federal Energy Policy Act of 1992, integrated resource planning for an electric utility means:

> … a planning and selection process for new energy resources that evaluates the full range of alternatives, including new generating capacity, power purchases, energy conservation and efficiency, cogeneration and district heating and cooling applications, and renewable energy resources, in order to provide adequate and reliable service to its electric customers at the lowest system cost. The process shall take into account necessary features for system operation, such as diversity, reliability, dispatchability, and other factors of risk; shall take into account the ability to verify energy savings achieved through energy conservation and efficiency and the projected durability of such savings measured over time; and shall treat demand and supply resources on a consistent and integrated basis.

16 U.S.C. §2602(19).

The General Assembly established Delmarva's IRP requirement in 2006 in response to the transition to a deregulated energy supply. When price caps expired in 2006 and Delmarva customers were finally exposed to market rates, the increase was staggering: a nearly 60% increase for residential customers, and even more for industrial customers. In response to public outcry over these increases, the General Assembly passed the Electric Utility Retail Customer Supply Act ("EURCSA"), in which it created the IRP requirement. 75 Del. Laws c. 242.

The EURSCA originally required Delmarva to file an IRP every two years, starting in 2006.[1] It defines integrated resource planning as "the planning process of an electric distribution company that systematically evaluates all available supply options, including but not limited to: generation, transmission and demand-side management programs, during the planning period to ensure that the electric distribution company acquires sufficient and reliable resources over time that meet its customers' needs at a minimal cost." 26 *Del. C.* §1001(16). Delmarva must "systematically evaluate all available supply options during a 10-year planning period in order to acquire sufficient, efficient and reliable resources over time to meet its customers' needs at a minimal cost;" must set forth Delmarva's supply and demand forecast for the next 10-year period and the resource mix with which Delmarva proposes to meet its supply obligations; and cannot rely exclusively on any particular resource or procurement process. *Id.* §1007(c)(1)a. Beginning in 2009, Delmarva was statutorily required to submit a report to the Commission, the Governor and the General Assembly that details its progress in implementing its IRPs. *Id.* §1007(c)(1)b. Finally, EURCSA provides that Delmarva shall recover the costs that it incurs in developing and submitting its IRPs through its distribution rates. *Id.* §1007(c)(1)d.

[1]The General Assembly has since amended the EURSCA to require Delmarva to file an IRP every three years.

SUMMARY OF THE DPA'S RECOMMENDATIONS

The DPA has been vocal in its belief that the IRP requirement should be abolished. In a deregulated supply situation such as Delaware's, in which the incumbent electric utility no longer owns any generation facilities, every supplier of electricity – not simply the electric distribution company subject to this Commission's regulation – has an incentive to obtain wholesale energy for resale at the lowest possible costs consistent with its obligations under the Renewable Energy Portfolio Standards Act (the "REPSA") and consistent with the obligations to which it is subject as a member of the independent system operator, PJM Interconnection, Inc. ("PJM"). Although there are several energy suppliers operating in Delaware (third-party competitive suppliers, the Delaware Electric Cooperative ("DEC"), municipal utilities such as the Cities of Dover, Newark and New Castle), only *Delmarva* is subject to the IRP requirement and therefore only *Delmarv*a customers bear the significant expense of the IRP process.

The original intent of the IRP was to ensure regulated electric utilities secured a reliable electric supply at the lowest cost while meeting mandated environmental goals. Instead, as we will explain, each of these goals is being met in other ways. The IRP process is out of date even before it is filed, and returns little value to Delmarva electric ratepayers for its $2 million cost.

We understand that other stakeholders – primarily DNREC – disagree that the IRP no longer has value. But DNREC (and those other stakeholders) has a vested interest in prolonging the IRP misery: every penny that Delmarva spends on IRPs (especially externality studies) (and which can be recovered from ratepayers) is a penny that DNREC does not have to spend from its budget on such studies.

The DPA is aware that the Commission cannot abolish the IRP requirement itself. But this Commission's conclusion that it is no longer serving the purposes for which it was intended could go a long way toward convincing the current General Assembly that it is time to bury the IRP.

The DPA recommends scheduling *one* (and only one) workshop to consider the following:

- Addressing the concerns/questions of the parties to minimize or eliminate the need for additional comments and responses so as to allow rapid progress toward the Commission's final approval of the IRP; and

- Obtaining support for introducing legislation in this session to eliminate the IRP requirement.

DISCUSSION

A. The IRP Is Outdated Even Before It Is Filed.

The IRP is outdated even before it is filed. In order to run the various models with the various assumptions, those assumptions obviously have to be locked down by a point certain.

However, many things can happen to change those assumptions. Consider the following game changing events that have occurred since the assumptions needed to create this IRP were determined:

- The EPA released proposed regulations for reducing greenhouse gas emissions and ozone that could lead to further shut down of existing electric generation facilities;

- The Supreme Court reinstated EPA Cross State Air Pollution standards that could lead to the retirement or modification of existing generation facilities;

- The Court of Appeals for the District of Columbia overturned a Federal Energy Regulatory Commission ("FERC") order that allowed PJM to permit Demand Response ("DR") to participate in PJM's wholesale energy market sources on the same footing as actual generation sources; if the Supreme Court does not hear an appeal of this decision, DR growth could be drastically reduced;

- PJM submitted a request to FERC for approval of a new capacity performance fee paid to electric generators to guarantee fuel supply; if approved, electric supply prices could increase significantly;

- Depending on the interpretation of the Renewable Energy Portfolio Standards Act ("REPSA"), renewable portfolio standard requirements could be frozen at current levels, which would reduce the need for wind and solar power, at least in the near term and possibly in the long term;

- If approved, a proposed settlement of the merger of Delmarva Power parent Pepco Holdings, Inc. with Exelon Corporation would establish new reliability goals, set caps on reliability investment, and establish ground rules for contract supply of an additional 120 MW of land-based wind power;

- Besides increasing the time between IRPs from two to three years, the passage of House Bill 150 made significant changes to strengthen energy efficiency in Delaware.

In past years, equally dramatic developments have occurred, and interveners have submitted extensive comments about the filed IRP. Yet neither these developments nor the comments have resulted in any changes to the filed IRP. It is clear that the process is not limber enough to deal with developing events. It represents a snapshot in time – accurate at that precise moment, perhaps, but not before and not afterward.

And the process is *expensive*, both in monetary terms and in terms of the time spent by the various stakeholders in the process. According to information filed in Delmarva's most recent rate case (Docket No. 13-115), Delmarva estimated that it would spend almost $2 million on the 2014 IRP. Delaware law permits Delmarva to remove the cost of IRPs in rates. And in previous IRP dockets, the parties have met numerous times, requiring some Delmarva personnel to travel from Washington D.C., and preventing other stakeholders from focusing on more important, productive and useful matters.

B. The Original Intent of the IRP - to Ensure that Regulated Electric Utilities Secured Reliable Electric Supply at the Lowest Cost While Meeting Mandated Environmental Goals - Is Being Met in Other Ways.

Since the electric supply market in Delaware has been deregulated and Delmarva has exited the electric generation business, the only strategy to control supply prices revolves around the policies for procuring supply. Delmarva is the only supplier whose procurement of supply is subject to Commission oversight – because it is the default supplier of electricity ("Standard Offer Service" or "SOS") in its service territory. As one of the reasons for the enactment of EURSCA was to promote supply price stability,[2] Delmarva has been using Commission-approved three-year laddered contracts as a hedge against the potential volatility of the power market. However, language contained in Section 66 of the 2014 Bond Bill appointed the Secretary of State to chair a committee to evaluate "the development of an electricity aggregation program(s) for residential customers." This language further gives the Secretary of State the authority to select and contract with a Commission-certified electricity supplier if it is ultimately determined that costs for residential and small commercial customers will be lower using an aggregation method.. Further, as a result of a Staff motion, the Commission has opened its own investigation into Delmarva's long-term (20 to 25 years) supply planning. This could lead to changes in the procurement process or even to Delmarva re-entering the electric generation market. These issues are not – and will not be - considered inside the IRP process.

If approved, the settlement agreement in Docket No. 14-193 will establish a new minimum System Average Interruption Duration Index ("SAIDI") and a cap on investment for "blue sky" reliability. Unfortunately, Delmarva may be falling short with respect to Major Outage Events ("MOEs"). Additional investment may be needed to boost hardening, the ability to resist damage from storms, electromagnetic pulse events, and physical attacks on the electric grid, and to improve resiliency (the ability to recover quickly from such events). The proposed settlement agreement in Docket No. 14-193 provides that Delmarva will meet with Staff and the DPA to discuss reliability investments. These issues are not – and will not be - addressed in the IRP.

The General Assembly created a Renewable Energy Task Force ("RETF") to make recommendations about the establishment of trading mechanisms and other structures to support the growth of renewable energy markets in Delaware. 26 *Del. C.* §360. In recent years, the RETF has focused on creating an auction mechanism for Delmarva to procure Solar Renewable Energy Credits ("SRECs"), which is are presented to the Commission for approval. There is a distinct possibility the upcoming SREC auction will be significantly under-subscribed. Should that occur (and assuming the REPSA SREC requirement has not been frozen), it is most likely that the RETF will determine future compliance mechanisms, not Delmarva or the Commission. This issue is not – and will not be - considered in the IRP.

These are just a few examples of matters that affect Delmarva's supply and distribution decisions but which are not and will not be part of the IRP process. As can be seen, the IRP does

[2] See 26 *Del. C.* §1007(c)(1)b.7.

not even present a complete picture of what is actually occurring at the point in time the snapshot is taken.

C. The Externality Report In the IRP Is of Limited Future Value and Is Not a Sufficient Reason to Continue the Expensive IRP Process.

Delmarva is committed to meeting federal and state environmental mandates. Generally, those mandates come with specific strategies for meeting the goals. A significant portion of the IRP is dedicated to reporting Delmarva's progress in meeting these environmental goals, along with a complicated analysis of the costs and benefits of the programs not directly reflected in prices (commonly called "externalities"). Some stakeholders (particularly DNREC) place a high value on the externality report. As we will show, this report is of limited future value, and is not a sufficient reason to continue the IRP process.

The IRP correctly limits the externality benefit calculation to the changes in emissions of electric generators located within Delaware's geographic boundaries. We can argue about the externality benefit theory, and how Delmarva is currently calculating the estimate. However, in this IRP the key issue is whether there will be any reductions of emission levels over the ten-year forecast period: basically, if there is no reduction in emissions, there will be no externality benefits.

Figures 2 though 4, starting on page 10 of the 2014 IRP, show forecasted reductions in emissions of CO_2, SO_2, and NOx. Table 1 shows the approximate forecast from the IRP:

Table 1: 2014 IRP Emissions Forecast in Metric Tons (pages 10-11) by Compliance Year

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	% Change
CO_2 1000s tons	7,000	6,000	5,400,	5,000	5,000	5,000	5,000	5,000	5,000	5,000	-29%
SO_2 tons	8,500	6,500	4,900	3,000	3,400	5,100	5,100	5,100	5,000	5,000	-41%
NOx tons	3,500	3,000	2,500	2,200	2,400	3,100	3,100	3,100	3,100	2,600	-26%

The problem is, the IRP is simply *wrong.* Other information sources show that emissions are already below the IRP's projected levels in 2024. Compare this to the *actual* data on Delaware emission levels from the U.S. Energy Information Agency ("EIA") and the CO_2 emission data from the Regional Greenhouse Gas Initiative's ("RGGI") CO2 Allowance Tracking System ("COATS"):

Table 2: Actual Delaware Emission Data Compared to IRP Forecast – Metric Tons

	2012 EIA[1]	2013 RGGI COATS[2]	2014 RGGI COATS	2015 IRP
CO_2	4,981,052	4,285,052	3,933,001	7,000,000
SO_2	2,427	Not Available	Not Available	8,500
NOx	2,840	Not Available	Not Available	3,500

Note 1 source: US EIA Electricity State Data Delaware 2012, http://www.eia.gov/electricity/data/state/ (latest release available)

Note 2 source: US EIA Electric Power Monthly January 2015, Tables 1.6B to 1.20B, http://www.eia.gov/electricity/monthly/[3]

We note that in 2012, Indian River Unit 3, a coal-fired plant, had not yet closed.[4] Its closure would further reduce SO_2 and NOx. We acknowledge that the Calpine Dover natural gas combined cycle facility to be completed in 2015 might add 600,000 tons of CO_2 a year, based on similar generating units at Hay Road. Since no other generating changes are planned, emissions will likely be stable through the ten-year planning period. Tables 3 and 4 below show that we can expect about 5 million tons annually of CO_2, about 2,000 tons annually of SO_2, and around 2,500 tons annually of NOx.

Table 3: 2015 CY CO_2 Estimated Emissions by Electric Generating Unit ("EGU"):

EGU	2015 CY Metric Tons CO_2	Estimating Basis
Christiana	1,415	2012-2014 Avg. RGGI COATS
Edgemoor	541,535	"
McKee Run	15,880	"
Vansant	1,325	"
Beasley	16,488	"
Delaware City	50,096	"
Hay Road	2,330,726	"
NRG Dover	99,649	2014 RGGI COATS as it has ramped up
Indian River	1,182,426	2013-2014 RGGI COATS Unit 4 only
Calpine Dover	606,000	26% of Hay Road, 309 MW Capacity vs. 1193 MW
Total	4,845,540	
Adjusted Total	4,995,402	RGGI COATS misses 3% of emissions below 25 MW

[3]The EIA information covers all Delaware generation. The RGGI COATS information omits generation units below 25 MW, but the 2012 RGGI COATS report covered 97% of the EIA total, so it is reasonable to use RGGI COATS information as a proxy for actual emissions.

[4]It shut down in 2013.

Table 4: 2015 CY SO_2 and NOX Estimated Emissions by Fuel Source

Fuel	2012[1] MWh	2015 CY[2] Est. MWh	Generation Ratio Year to Year	2012[3] SO_2 Tons	2012[3] NOX Tons	2015 CY SO_2 Tons	2015 CY NOX Tons
NG	6,815,000	6,332,000	0.93	25	1,214	23	1,129
NG Calpine Dover	0	1,242,422				5	221
Coal	1,423,000	1,152,630	.81	2,356	794	1,737	585
Pet. Liquids	22,000	163,000	7.4	38	9	281	67
Other Gas	244,000	208,300	0.85	8	24	7	20
Biomass	105,000	58,000	0.55	0	799	0	439
Total	8,609,000	9,156,352		2,427	2,840	2,053	2,461

Note 1: Note 2 source: US EIA Electric Power Monthly January 2015 Tables 1.6B to 1.20B http://www.eia.gov/electricity/monthly/

Note 2: Derived from Table 3.

Note 3: US EIA Electricity State Data Delaware 2012 http://www.eia.gov/electricity/data/state/

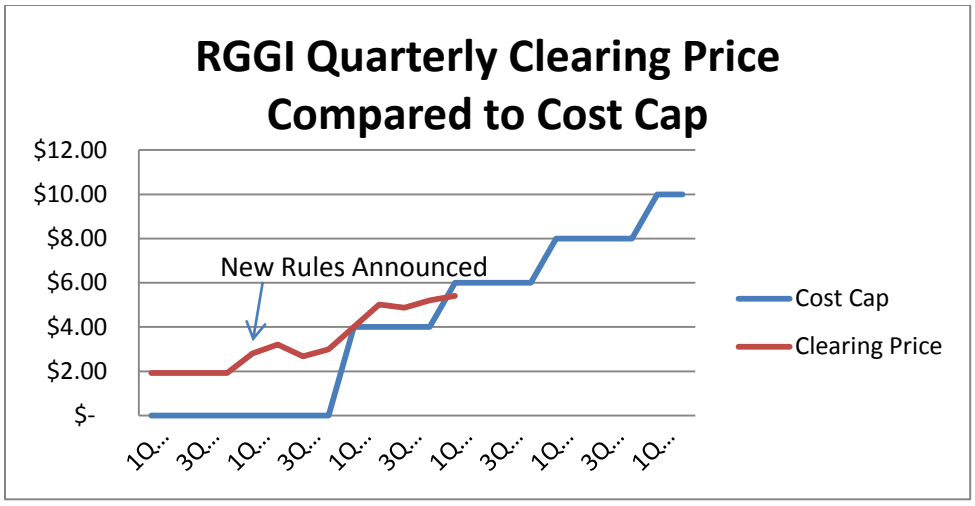
Stable emissions mean no change in externality cost and no justification for externality studies at Delmarva ratepayer expense.

D. The IRP Completely Ignores the Price Impact of New RGGI Rules on Electricity Costs.

In 2013 new rules for RGGI's carbon permit auctions greatly reduced the number of available permits. The number of available permits dropped from 147 million in 2012 to 78 million in 2014 – the approximate number electric generators needed to meet their expected emissions. But speculators entering the market to buy permits for resale at a higher price drove demand up to 215 million permits in 2014. This imbalance in supply versus demand caused prices to increase from $1.93/ton in 2012 to $4.73/ton in 2014.

With demand far exceeding supply, how were prices determined? Ostensibly to protect electric customers, the new rules established cost caps escalating from $4/ton in 2014 to $6 in 2015, to $8 in 2016, to $10 in 2017, and rising 2.5%/year thereafter. The chart below shows how prices are rising in the quarterly auctions in direct relation to the cost caps. Basically, the RGGI states are setting auction prices.

This has significant implications in forecasting future prices of carbon permits and the impact on electric bills. When the price cap hits $10/ton in 2017 we can expect carbon permits to cost at least that much. In Delaware, electric customers' cost will rise from $5.8 million in 2012 to at least $43 million in 2017. Residential customers will see costs rise from about $6/year to about $44/year, and the largest industrial customers could see cost increases from $125,000/ year to $1 million/year. Such increases could make electricity unaffordable for many Delaware residential customers, and could cause the few remaining industrial customers in Delaware to decamp for areas with less expensive electricity.



Delaware RGGI by Year	CO2 Permits	Average $/Permit	Revenue - $
2012	3,000,882	1.93	5,791,703
2013	5,551,860	2.92	16,193,082
2014	3,798,360	4.73	17,968,750
2015	4,420,727	6.00	26,524,362
2016	4,321,651	8.00	34,573,208
2017	4,317,737	10.00	43,177,370
2018	4,221,235	10.25	43,267,659
2019	4,127,145	10.51	43,376,294
2020	4,035,408	10.77	43,461,344

CONCLUSION

At the one workshop we recommend, we would ask Delmarva the following questions:

1) How did it come up with such high base line emission estimates? We ask it to respond to the emission forecast analysis in this report which are based on EIA and RGGI information, and to consider our suggestion that externality cost estimates, and the IRP process, be discontinued.

2) Given the state of natural gas prices, would it now use the low gas cost case instead of the reference case with higher gas cost as the alternate case?

3) It appears that wholesale electric supply costs do not reflect rapidly increasing auction prices for RGGI carbon permits. Did it address RGGI permit costs in the IRP? Where and how?

4) In the 2015 compliance year, Delaware EGUs will emit 5 million tons of CO_2 compared to 4.4 million tons of available RGGI permits. By compliance year 2020,

the gap increases to a million tons. Will the EGUs have to curtail generation by 20%? If so, what impact will that have on electric supply price and reliability?

Respectfully submitted,

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Dated: March 30, 2015